

PATENT ABSTRACTS OF JAPAN(11)Publication number : **11-334981**(43)Date of publication of **07.12.1999**
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(21)Application number :**10-146137****(71)Applicant CENTRAL GLASS CO LTD****(22)Date of filing :****27.05.1998****(72)Inventor : WATANABE HIROTAKA**

(54) TAPE STICKING TOOL**(57)Abstract:**

PROBLEM TO BE SOLVED: To easily and surely stick a tape to an edge part of a plate body by integrally assembling an unwinding reel for a tape wound body, a presser roller for the tape, and a bent member of the tape in a frame member in a tape sticking tool for sticking a protecting adhesive tape to the edge part of the plate body.

SOLUTION: When a protecting adhesive tape 5 is stuck to an edge part from the end face across the both side edges of the plate body 8 which is composed of a glass window material, at first, the tape 5 is led out from a tape wound body of an unwinding reel 6 in a tape sticking tool 1 through a presser roller 9 and a pair of pinch members 7, 7' so as to bring in contact with the end face of the plate body 8. After the side edges of the plate body 8 are pinched between the both pinch member 7, 7' and fitted in a pair of tape bent members 10, 10', the tape sticking tool 1 is moved in the Y direction along the end face of the plate body 8 and the tape 5 is folded up along the end face of the plate body 8 so as to be pushed against it. Then, when the whole circumference of the plate body 8 is wound around, the tape 5 is cut by a tape cutter 13.

CLAIMS

[Claim(s)]

[Claim 1] this tape attachment implement being in the end of the end face of a plate, and making it move along with the end face of a plate that the adhesive tape for protection should be stuck on the edge section applied to edges on both sides from the end face of a plate In the aforementioned tape attachment implement which sticks a tape over the edge section of a plate The rewinding reel of tape **** by which adhesives were applied to the internal surface of parietal bone, and the press roll on which the tape drawn from the reel is pressed and pasted up on the end-face section of a plate, The tape attachment implement characterized by consisting of a tape bending member of the couple which bends the tape both ends pasted up on the end-face section, applies to a plate end face and a side edge, and is stuck, and a frame member which included these rewinding reel, the press roll, and the tape bending member in one.

[Claim 2] The tape bending member of a couple consists of a piece of an end-face slide contact of a plate, and a piece of a side edge slide contact of the plate of the outside, respectively. the piece of an end-face slide contact The soffit touches the end-face both-sides section of a plate through a tape. the piece of a side edge slide contact That a flat tape should be bent crosswise gradually and the side edge of a plate should be made to stick and paste The tape attachment implement according to claim 1 characterized by **ing the bottom, extending towards the edges-on-both-sides section of a plate gradually, and the internal surface of parietal bone of the piece of a side edge slide contact touching the edges on both sides of a plate through a tape as there is the soffit almost flat-tapped with the soffit of the piece of an end-face slide contact and it went back in the front end section.

[Claim 3] The tape attachment implement according to claim 1 characterized by having allotted the **** member of the couple formed in the side edge section of a plate from the standup section of the ***** first portion, and the wave section which consists of the wave-like trough and wave-like crest of the section in the second half so that the crest of the aforementioned wave might be located underneath the press roll, and preparing a spacing between a press roll and the upper-limit side of a wave-like crest.

[Claim 4] A press roll, the tape attachment implement according to claim 1 characterized by preparing the tape cutter which cuts a tape suitably between tape bending members.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] Suitably, this invention relates to the tape attachment implement for sticking the adhesive tape for protection on the edge section beforehand, in order to protect the edge section in the time of an archive of glass-window material, such as sheet glass, laminated glass, and a multiple glass, a migration, and construction etc., a plate lacking in toughness, such as glass and a ceramics, and.

[0002]

[The conventional technique and its technical problem which should be solved] For example, in JP,63-12131,Y, it sticks on a plate surface periphery, pulling out a tape from the case which held the reel field of an adhesive tape in the tools which stick a tape on the plate surface periphery of a glass pane in advance of construction, a tape is bent in the corner section in a plate surface, and the tape bending attachment implement it enabled it to stick is indicated. This well-known example differs from what sticks a tape on plate table (reverse) side peripheries, such as a glass pane, applies to an end face and edges on both sides, and is stuck.

[0003] Moreover, to JP,61-151953,U, the attachment machine of a whorl adhesive tape stuck by the guide rail which suppresses the aforementioned adhesive tape to the end face of sheet glass, pulling out a whorl adhesive tape from a case and exfoliating a release paper leads, justifying a looping-around adhesive tape by the interior material of a proposal, and the guide member in JP,3-28710,A further, and the attachment fixture of an adhesive tape stuck on end faces, such as a glass plate, with a rolling roller is indicated, for example. Although these well-known examples stick a tape on end faces, such as sheet glass, it applies to an end face and edges on both sides, and they are not stuck.

[0004] this invention offers the tape attachment implement which sticks adhesive tape with an easy means, without the edge section applied to edges on both sides from the end face of a plate taking especially complicated technique.

[0005]

[Means for Solving the Problem] this being at the end of the end face of a plate in a tape attachment implement, and making it move along with the end face of a plate that this invention should stick the adhesive tape for protection on the edge section applied to edges on both sides from the end face of a plate In the aforementioned tape attachment implement which sticks a tape over the edge section of a plate The rewinding reel of tape **** by which adhesives were applied to the internal surface of parietal bone, and the press roll on which the tape drawn from the reel is pressed and pasted up on the end-face section of a plate, It is the tape attachment implement which consists of a tape bending member of the couple which bends the tape both ends pasted up on the end-face section, applies to a plate end face and a side edge, and is stuck, and a frame member which included these rewinding reel, the press roll, and the tape bending member in one.

[0006] The tape bending member of the aforementioned couple consists of a piece of an end-face slide contact of a plate, and a piece of a side edge slide contact of the plate of the outside, respectively. in addition, the piece of an end-face slide contact The soffit touches the end-face both-sides section of a plate through a tape. the piece of a side edge slide contact That a flat tape should be bent crosswise gradually and the side edge of a plate should be made to stick and paste Gradually, it **s the bottom, and is extending towards the edges-on-both-sides section of a plate, and the internal surface of parietal bone of the piece of a side edge slide contact is made to touch the edges on both sides of a plate through a tape as there is the soffit almost flat-tapped with the soffit of the piece of an end-face slide contact and it goes back in the front end section.

[0007] In the above, it is desirable to allot the **** member of the couple formed in the side edge section of a plate from the standup section of the ***** first portion and the wave section which consists of the wave-like trough and wave-like crest of the section in the second half so that the crest of the aforementioned wave may be located underneath the press roll, and to prepare a spacing between a press roll and the upper-limit side of a wave-like crest.

[0008] Furthermore, it is desirable to prepare the tape cutter which cuts a tape suitably between the aforementioned press roll and a tape bending member.

[0009]

[Embodiments of the Invention] In this invention, although masking tape does not protect the chip crack protection from the edge section, and this section from external impact in the time of an archive of glass-window material, such as tabular glass, ceramicss, for example, sheet glass, laminated glass, and a multiple glass, a migration, and construction etc. and the tape quality of the material is not specified, metal tapes, such as resin tapes, such as various polyester tapes marketed, a polyolefine tape, and a vinyl tape, a zinc tape, a lead tape, and an aluminum tape, are applicable.

[0010] The example of operation is illustrated below and this invention is explained.

[Structure of tape attachment implement] view 1 the outline perspective diagram of the tape attachment implement of this invention, and the drawing 2 The outline perspective diagram and the drawing 3 having shown relation of a **** member and a plate The outline perspective diagram and the drawing 4 having shown relation of a tape bending member and a plate The partial front view and the drawing 5 having shown the frame member, and the rewinding reel and **** member of the tape attachment implement in X directional vision of drawing 1 The frame member of the tape attachment implement in Y directional vision of drawing 1 , a tape cutter and the partial rear view having shown the relation of a **** member, and the drawing 6 are U-U line cross sections of drawing 2 , and are a press roll, a **** member, and drawing having shown relation of a plate.

[0011] the tape attachment implement 1 -- setting -- the frame member 2 -- one side plate (A) three -- another side -- a side plate -- (-- B --) -- three -- ' -- both sides -- a plate -- (-- A --) -- (-- B --) -- it should span -- proper -- having allotted -- a stop -- **** -- for example, -- four -- four -- ' -- **** -- becoming .

[0012] The rewinding reel 6 holding **** of a tape 5, for example, a zinc tape Side plate of the frame member 2 (B) It is that whose justification fixes to revolve free [rotation] to piece of extension 3" which extended to the front slanting upper part of 3', and is enabled in the orientation of an axial length of shaft 6'. it is shown in drawing 4 -- as -- the size of the width of face of a tape 5 -- responding -- width-of-face center-section 5' of a tape -- the side plate (A) of a frame member -- it adjusts and fixes so that it may be located in the center section of the spacing of 3 and side plate (B) 3'

[0013] In the lower part of the rewinding reel 6, it is a **** member (A) between the side plate (A) of a frame member, and (B). 7 and **** member (B) 7' is arranged in an object by transverse-plane (orientation of X) **, and the side edge of a plate 8, for example, a multiple glass, is put by both the ****s member (A) and (B). the **** member (A) 7 -- side plate (A) 3 -- **** member (B) 7' -- side plate (B) three -- ' -- supporting to revolve -- having -- respectively -- a side plate -- (-- A --) -- (-- B --) -- a contiguity -- isolation -- possible -- it can adjust -- both -- **** -- a member -- (-- A --) -- (-- B --) -- a spacing -- a center section -- the above -- a tape -- five -- width of face -- a center section It can scan by both the ****s member (A) and (B), without carrying out horizontal blurring of the tape attachment implement 1 along with the end face of a plate 8.

[0014] Both ****s member (A) 7 and 7' is ***** (Z directional vision of drawing 1), respectively. It is what arranges the press roll 9 so that it may consist of the standup (it is left-

hand side in drawing) section of the first portion, and the wave section which consists of a trough of the wave (it is right-hand side in drawing) of the section, and a wave-like crest in the second half as shown in drawing 2, and it may construct in the upper position of the crest of the aforementioned wave. As shown in drawing 6, D between the crests of the press roll 9 and a wave has a spacing before and behind 3mm. The press roll 9 is the aforementioned side plate (A). 3 and side plate (B) It is supported to revolve free [rotation] by the shaft which spans with 3', and has the operation which makes the end face of a plate 8 press and paste up a tape 5.

[0015] As behind the press roll 9 shows to drawing 3 between the side plate (A) of a frame member, and (B), it is a tape bending member (A). 10 and tape bending member (B) 10' is allotted to an object by transverse-plane (orientation of X) **. both the tapes bending member (A) and (B) -- both the aforementioned ****s member (A) and (B) -- it supports to revolve to a side plate (A) and (B) similarly, respectively -- having -- both the ****s member (A) and (B) -- the same -- beforehand -- a spacing -- it justifies and fixes

[0016] Tape bending member (A) 10 (the same is said of tape bending member (B) 10') As shown in drawing 3, it consists of a piece 11 of an end-face slide contact of a plate, and a piece 12 of a side edge slide contact of the plate of the outside. the piece 10 of an end-face slide contact The soffit touches the end-face flank of a plate 8 through a tape. the piece 12 of a side edge slide contact In **** and the front end section which bend the flat tape 5 gradually crosswise, and are stuck and pasted up on the side edge of a plate 8 (tape bending section 5") Gradually, it **s lower, and is extending towards the edges-on-both-sides section of a plate, (extended section 12'), and the internal surface of parietal bone of the piece of a side edge slide contact is made to touch through the side edge and the tape 5 (5") of a plate 8 as there is the soffit almost flat-tapped with the soffit of the piece 11 of an end-face slide contact and it goes back.

[0017] a tape cutter -- 13 -- press -- a roll -- nine -- both -- a tape -- bending -- a member -- (-- A --) -- (-- B --) -- ten -- ten -- ' -- between -- allotting -- a thing -- it is -- drawing 5 -- being shown -- as -- side plate (B) handle section 14' which fixes to revolve free from 3' to a protruding piece 14, is the cutter knives which cuts a tape 5 crosswise, fixes to revolve similarly, and interlocks with a tape cutter -- W -- After a disconnection of a tape 5 sticks a tape over the edge section perimeter of a plate, it is performed, and a tape cutter 13 returns to the original position by deflation operation of spring 13" after a disconnection of a tape 5.

[0018] the above -- setting -- temporary -- both the ****s member (A), when not forming the trough of the second half section wave of 7 and 7' a tape -- **** -- a tape -- five -- press -- a roll -- nine -- both -- **** -- a member -- (-- A --) -- (-- B --) -- seven -- seven -- ' -- the second half -- the section -- a wave -- a crest -- between -- letting it pass -- drawing -- the time -- a tape -- five -- a inferior surface of tongue (adhesion side) -- this -- ***** -- a upper limit -- a field -- touching -- pasting up -- derivation -- operation -- being difficult -- ** The above-mentioned evil can be eliminated by presence of the trough of the aforementioned wave.

[0019] moreover -- the above -- both -- **** -- a member -- (-- A --) -- (-- B --) -- seven -- seven -- ' -- the second half -- the section -- a wave -- a crest -- forming -- things -- drawing -- five -- being shown -- as -- a tape cutter -- 13 -- depending -- drawing -- inside -- a upper right -- a way -- **** -- a tape -- a disconnection -- facing -- a tape -- five -- drawing -- inside -- a lower part (**V) -- depressing -- In that case, the inferior surface of tongue (adhesion side) of a tape 5 touches and engages [paste up and] with the upper-limit side of the crest (7, 7') of the

aforementioned wave. In case it can prevent with [to the reel 6 of the tape 5 by the counteraction after a disconnection] a volume and repetition attachment work is carried out to the plate of two or more sheets by that cause, a tape 5 is pulled out from the rewinding reel 6 each time, and the operation which lets between the crests of the aforementioned press roll 9 and the aforementioned wave pass is not needed.

[0020] [Operating procedure] According to the size of the width of face of the tape 5 which should be stuck beforehand, it fixes so that width-of-face center-section 5' of a tape may be located in the center section of the spacing of side plate (A) 3 and side plate (B) 3' of a frame member, and it is a **** member (A). 7 and **** member (B) Width-of-face center-section 5' of the center section of the spacing of 7' and the aforementioned tape 5 is made in agreement.

[0021] first -- a tape -- attachment -- an implement -- one -- rewinding -- a reel -- six -- **** -- a tape -- **** -- a tape -- five -- press -- a roll -- nine -- both -- **** -- a member -- (-- A --) -- (-- B --) -- seven -- seven -- ' -- the second half -- the section -- a wave -- a crest -- between -- letting it pass -- up to -- having drawn -- a top -- the end face of a plate 8 -- reliance -- obtaining --

[0022] It is the **** member (A) of the tape attachment implement 1 about the side edge of after the aforementioned operation and the plate 8, for example, a multiple glass. 7 and **** member (B) It puts between 7' and inserts in between tape bending member (A) 10 and tape bending member (B) 10'.

[0023] Furthermore, it is made to scan in the orientation of <-Y which shows the tape attachment implement 1 in drawing 1 along with the end face of a plate 8. A tape 5 is pressed and pasted up on the end face of a plate 8 with the press roll 9, and it is a tape bending member (A). By the piece 12 of a side edge slide contact of 10 (and tape bending member (B) 10'), crosswise, the flat tape 5 is bent gradually, and the side edge of a plate 8 sticks and is pasted at the beginning.

[0024] in the corner section of a plate 8, the tape attachment implement 1 is scanned along with the extension wire of the end face of a plate -- making -- both the tapes bending member (A) -- the place which 10 and 10' protruded from the corner of the aforementioned plate 8 -- a tape -- attachment -- an implement -- one -- a degree -- an end face -- orientation -- 90 -- a degree -- rotating -- making -- a tape -- having stretched -- the status -- both -- **** -- a member -- (-- A --) -- (-- B --) -- seven -- seven -- ' -- a plate -- eight -- edges on both sides -- fitting in -- making -- and -- both -- a tape -- bending -- a member -- (-- A --) -- (-- B --) -- ten -- ten -- In the place around which the perimeter was made to wind, in the status that separate the front end side (both the ****s member (A), (B)) of the tape attachment implement 1 from the end face of a plate 8, and a tape cutter 13 does not contact a plate, **** is put into a tape 5 by the tape cutter 13, and a tape 5 is cut. Attachment work is completed above.

[0025] In addition, it is not necessary to necessarily stick a tape over the edge section perimeter of a plate, and sticks only on the corner section, or can perform optionally sticking near [length orientation center-section] neighboring etc.

[0026] Like the above, it is constituted and a tape can be certainly stuck on the periphery section applied to the edges-on-both-sides section from the end face of a plate by making it scan along with the edge section of a plate.

[0027]

[Effect of the Invention] According to the tape attachment implement of this invention, the effect that adhesive tape can be certainly stuck with an easy means is done so, without the edge section applied to edges on both sides from the end face of a plate taking complicated technique.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the outline perspective diagram of the tape attachment implement of this invention.

[Drawing 2] It is the outline perspective diagram having shown relation of a **** member and a plate.

[Drawing 3] It is the outline perspective diagram having shown relation of a tape bending member and a plate.

[Drawing 4] It is the partial front view in X directional vision of drawing 1 having shown the frame member, and the rewinding reel and **** member of a tape attachment implement.

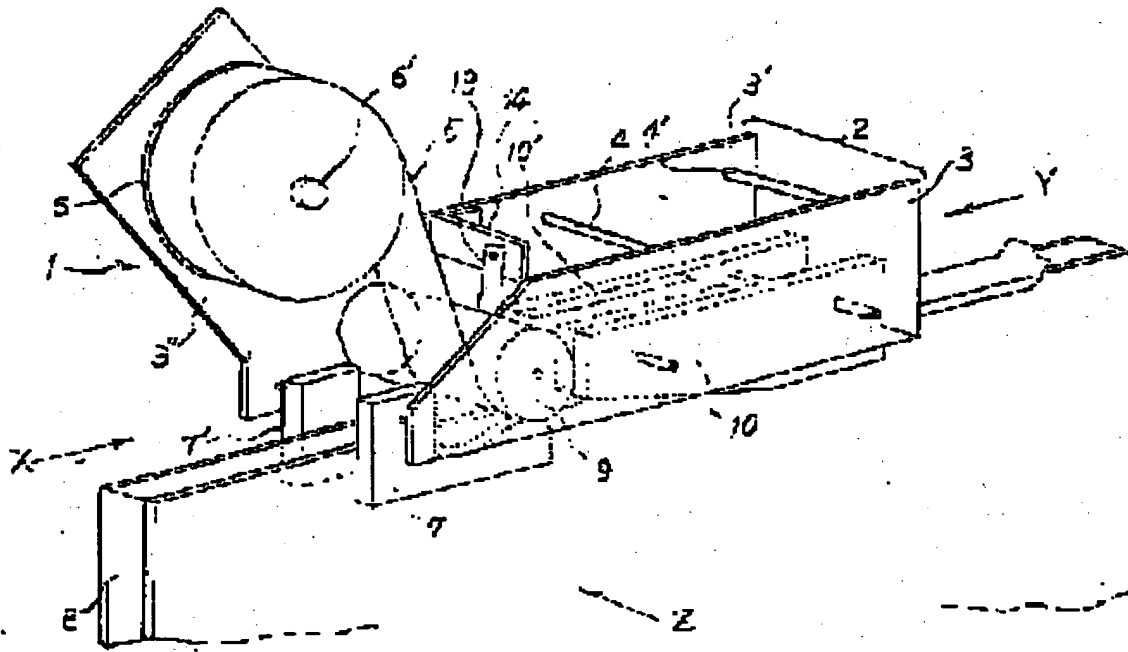
[Drawing 5] It is the frame member of a tape attachment implement, the tape cutter, and the partial rear view having shown the relation of a **** member (crest of a second half section wave) in Y directional vision of drawing 1.

[Drawing 6] It is drawing having shown relation of a press roll, a **** member (crest of a second half section wave), and a plate with the U-U line cross section of drawing 2.

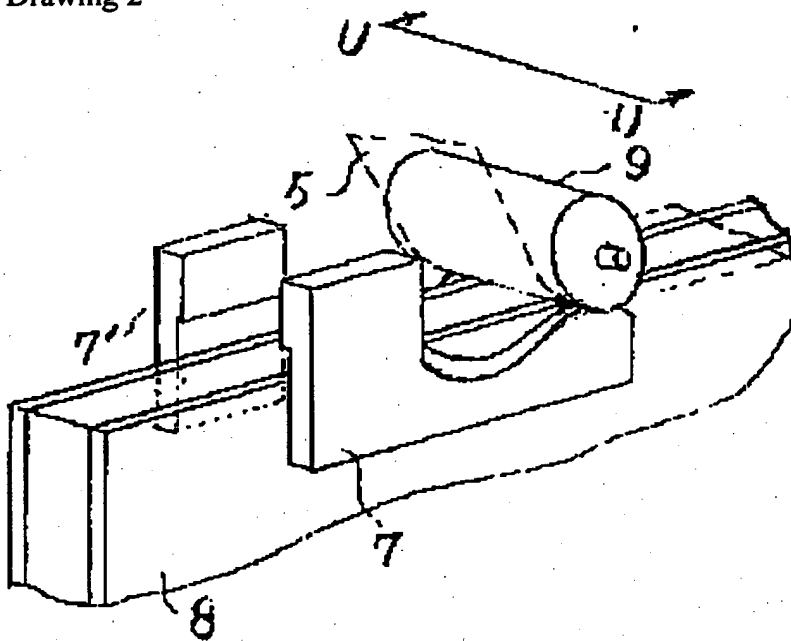
[Description of Notations]

- 1 Tape Attachment Implement
- 2 Frame Member
- 3 Side Plate (A)
- 3' Side plate (B)
- 5 Tape
- 6 Rewinding Reel
- 7 **** Member (A)
- 7' **** member (B)
- 8 Plate (Multiple Glass)
- 9 Press Roll
- 10 Tape Bending Member (A)
- 10' Tape bending member (B)
- 11 Piece of End-Face Slide Contact of Plate
- 12 Piece of Side Edge Slide Contact of Plate
- 13 Tape Cutter

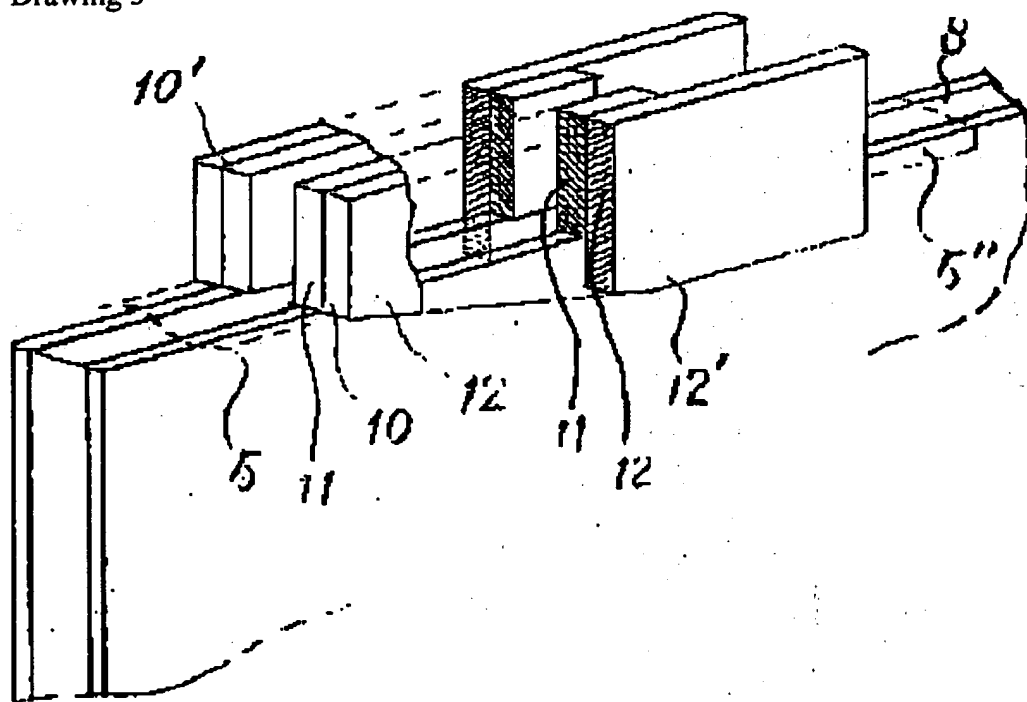
Drawing 1



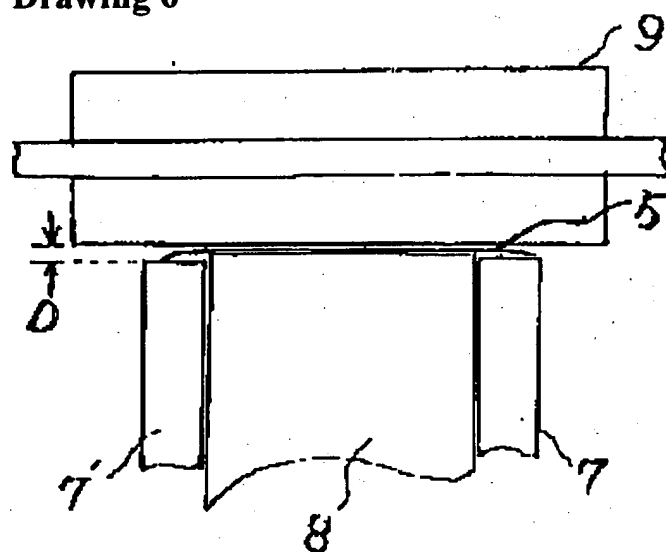
Drawing 2



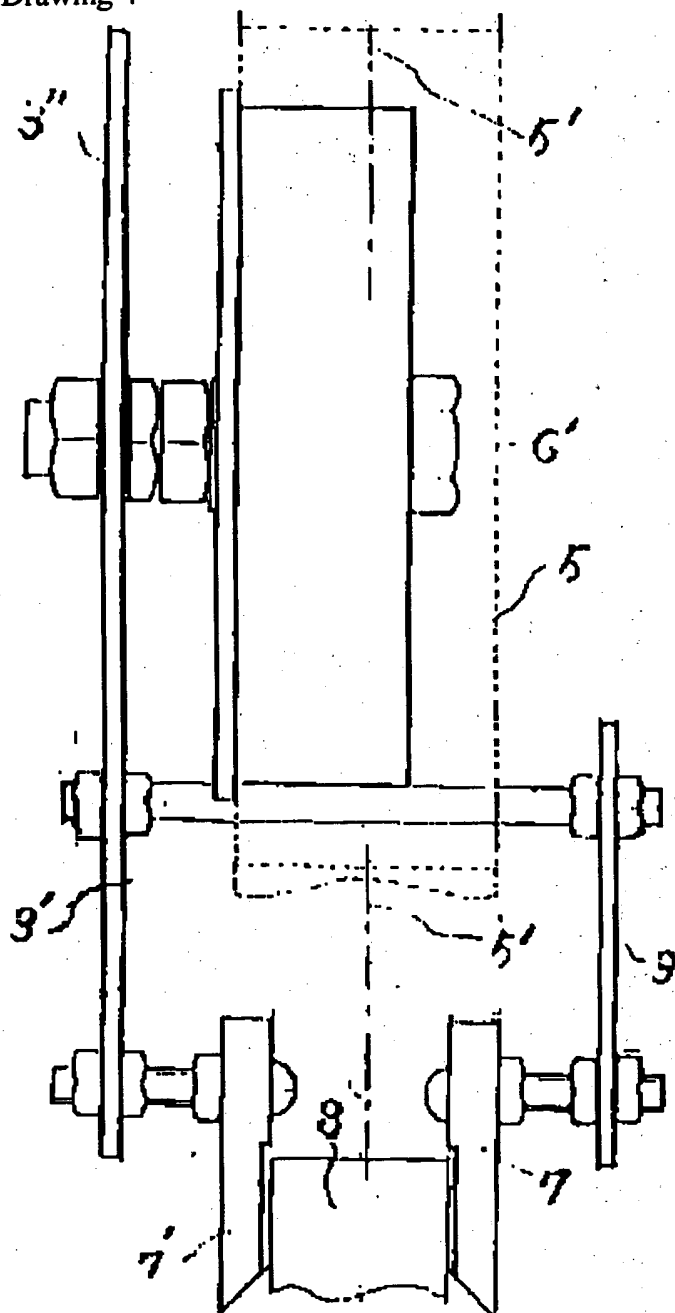
Drawing 3



Drawing 6



Drawing 4



Drawing 5

